

curriculum vitae

Name : George Gaidajis
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ACADEMIC BACKGROUND

1993 Doctor of Philosophy (PhD)
Department of Environmental Chemical Engineering, Graduate School of Science & Engineering,
Saitama University, Japan.

1999 Master in Business Administration (MBA)
Hellenic Association for Business Administration, Thessaloniki, Greece.

1990 Master of Engineering (M.Eng.)
Department of Environmental Chemical Engineering, Graduate School of Science & Engineering,
Saitama University, Japan.

1987 Bachelor in Physics
Department of Physics, Aristotle University of Thessaloniki, Greece.

LANGUAGES

- English (Excellent, Certificate from University of Cambridge)
- Japanese (Very Good, Certificate from Tsukuba University Language Center)
- French (good)

SCHOLARSHIPS – HONORS - MEMBERSHIPS

- Scholarship from the Japanese Ministry of Education (1987-1993).
- 2nd award from the Air Pollution Research Society of Japan (1989).
- Member of BENA (Balkan Environmental Association).
- Member of ISIE (International Society of Industrial Ecology).

PROFESSIONAL EXPERIENCE

2006 - Assistant Professor, Department of Production Engineering & Management
School of Engineering, Democritus University of Thrace.

2002 - 2006 Adjunct Professor, Department of Production Engineering & Management,
School of Engineering, Democritus University of Thrace.

2001 - Adjunct Professor, Technological Educational Institute of Kavala.

2003 Consultant (Environmental and Management issues).

1994 – 2002 Environmental Manager in Industry.

TEACHING ACTIVITY

2006 - Teaching of the following subjects – Dept. of Production Engineering & Management : Physics (1st sem.), Fluid Mechanics (5th sem.), Industrial Process Systems (6th sem.), Environmental Technology (8th sem.)

2001 - Technological Institute of Kavala

2008 - Seminar type lectures at the Graduate course of the School of Engineering of the Democritus University of Thrace, “Systems Engineering & Management”

2008 - Supervision of Master Theses at the above mentioned Graduate course

2006 - Supervision of Graduation Theses, Dept. of Production Engineering & Management

2008 - Supervision of four (4) doctoral theses, Dept. of Production Engineering & Management

1990-1993 Seminars and laboratory supervision, Department of Environmental Chemical Engineering, Graduate School of Science & Engineering, Saitama University, Japan

RESEARCH ACTIVITY

Research programs (selectively)

1. "Development and application of artificial wetlands for the treatment of the acid mine drainage", Nationally funded Industrial Research, Contract No. 94BE126, Principal Researcher, 1996-1998
2. "Innovative Industrial Technologies for the Rehabilitation of Land Contaminated from Polymetallic Sulphide Mining and Processing Operations», Acronym: ROLCOSMOS, European Union funding, Contract No. BRPR-CT96-0297, Principal Researcher, 1997-2000
3. "Development and application of low cost geo-barriers for the environmentally safe management of sulphidic mining wastes", Nationally funded Industrial Research (EPET II), Principal Researcher, 1999-2001.
4. "Life Cycle Assessment of mining projects for waste minimization and long term control of rehabilitated sites", Acronym: LICYMIN, European Union funding, Contract No. G1RD-CT-2000-00162, Principal Researcher, 2000-2002
5. "Closure of Tailings Dams", Acronym: CLOTADAM, European Union funding, Contract No. G1RD-CT-2000-00480, Principal Researcher, 2000-2002
6. "Evaluation and Development of Sustainable Industrial Systems within the framework of Industrial Ecology", research program funded by the Technical Chamber of Greece, Project Manager, 2007-
7. "Indoors air quality in terms of fine particulate matter", research program funded by the Technical Chamber of Greece, Project Manager and Principal Researcher, 2009-2011.
8. "Development of a methodological framework for the evaluation of the environmental sustainability of industrial activities. Case study: Mining and Extractive Industry", funded by S&B Industrial Minerals SA, 2008-2009
9. ESPON, ULYSSES Using applied research results from ESPON as a yardstick for cross-border spatial development planning, 2011
10. Estimation of the carbon footprint of Kavala Municipality, 2012
11. Black Sea Basin Program, "Black Sea Buildings Energy Efficiency Plan-BSBEEP", 2013-2015

Research Interests

A. Industrial Ecology

Industrial Ecology focuses on the sustainable combination of environment and technology. Its main idea is the analogy between natural and technical (industrial) systems (the term industry does not refer to industrial complexes but has the broader meaning of the utilization-consumption of raw materials for the production of products and services). The research activities of the undersigned related with the specific scientific field regard:

- Material Flow Analysis (industrial metabolism), Sustainable cities and local metabolism
- Life Cycle planning, design and assessment
- Eco-efficiency with the development and application of appropriate indicators
- Industrial applications of Industrial Ecology and more specifically, industrial symbiosis with the design and development of eco-industrial parks
- Sustainable cities and local metabolism
- The environmental impacts of the service sector

CONFERENCE PROCEEDINGS (selectively)

1. K. Sakamoto, G. Gaidajis, et al, "Chemical Characterization of Atmospheric Aerosols in Northern (Beijing) and Southwestern (Guiyang) China", proceedings p. 195, International Conference on Global and Regional Environmental Atmospheric Chemistry (ICGREAC), May 3-10, 1989, Beijing, China.
2. K. Sakamoto, G. Gaidajis, et al, "Characteristics of Gaseous and Particulate Air Pollutants in Acid Rain and Non-Acid Rain Areas of China" (in Japanese), proceedings p. 308, 30th meeting of the Japanese Society of Air Pollution Research, November 9-11, 1989, Kawasaki, Japan.
3. K. Sakamoto, G. Gaidajis, et al, "Air Pollution Characteristics in Acid Rain Areas of China" (in Japanese), proceedings p. 869, 59th meeting of the Japanese Chemical Society, April 1-4, 1990, Kanagawa University, Kanagawa, Japan.
4. K. Sakamoto, G. Gaidajis, et al, "Behavior and Characteristics of Atmospheric Pollutants in the Vicinity of the Tokyo Metropolitan Area in Early Winter", proceedings p. 201, 32nd meeting of the Japanese Society of Air Pollution Research, October 29-November 2, 1991, Kita-Kyushu, Japan.

5. K. Sakamoto, G. Gaidajis, Q. Wang, Y. Hirota, K. Kimijima and M. Okuyama, "Transportation of Atmospheric Pollutants by Sea-Land Breeze in and over the Tokyo Metropolitan Area", Proceedings IU-11C-09 (12 pages), 9th World Clean Air Congress, August 30-September 4, 1992, Montreal, Canada.
6. K. Sakamoto, G. Gaidajis, Q. Wang, Y. Yoshimura, O. Ishitani and K. Kimijima, "Comparison of acidity for atmospheric particulate matter collected at northern and southwestern cities in China and south Kanto area in Japan", Proceedings pages 254-266, International Conference on Acid Deposition in East Asia, 1996, Taipei, Taiwan.
7. K. Adam, G. Gaidajis, E. Gazae, "The Environmental Program of TVX Hellas" (poster session), EURECO 99, VIII European Ecological Congress, "Perspective and Challenges for the 21st century", September 18-23, 1999, Chalkidiki, Greece.
8. G. Gaidajis and K. Adam, "Ambient concentrations of Total Suspended Particulates at the mining facilities of TVX Hellas in Northeastern Chalkidiki, Greece" (poster session), 3rd International Conference of Balkan Environmental Association on Transboundary Pollution, November 23-26, 2000, Bucharest, Romania.
9. G. Gaidajis, E. Mylona, K. Adam, "A reclamation scheme for sulphidic waste rock at Stratonis mines, Greece", Proceedings, pages 111-117, International Workshop "New Frontiers in Reclamation: Facts and Procedures in Extractive Industry", September 19-21, 2001, Milos, Greece.
10. G. Gaidajis and K. Adam, "Environmental Characterization and Evaluation of a New Reclamation Scheme for the Sulphide Waste Rock from the Stratonis Mines", 4th International Conference of Balkan Environmental Association on "Transboundary Pollution", October 18-20, 2001, Edirne, Turkey.
11. G. Gaidajis, "Heavy metals and elements in coastal waters close to mining activities", Proceedings, pages 723-728, 2nd International Conference on Advances in Mineral Resources Management and Environmental Geotechnology, September 25-17, 2006, Hania, Greece.
12. G. Gaidajis, "A quick sustainability assessment of an industrial facility", Proceedings, pages 177-182, "International workshop on Geoenvironment & Geotechnics", September 8-9, 2008, Milos, Greece.
13. G. Gaidajis and D. Aktsoğlu, "The impact of mining activities in the quality of coastal sea waters", 2nd International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 09) & SECOTOX Conference, June 21-25, Mykonos, Greece 2009.
14. G. Gaidajis, "Development of a methodological framework for the environmental sustainability assessment of industrial activities. Case Study: Mining & Extractive Industry", 2nd International Conference on Environmental Policy & Management, June 19-21, Mytilini, Greece 2009.
15. G. Gaidajis, P. Botsaris, "Assessment of the environmental and sustainability performance of construction projects", 2nd International Conference on Environmental Policy & Management, June 19-21, Mytilini, Greece 2009.
16. G. Gaidajis and K. Angelakoglou, "Recovery of waste lubricant oil contained in used automotive filters", 3rd International Conference "Towards Sustainable Development: Assessing the footprint of resource utilization & Hazardous Waste Management", AMIREG 2009, September 7-9, Athens 2009.
17. G. Gaidajis and K. Angelakoglou, "Systemic thinking and industrial ecology – the concept of eco-industrial parks", 5th National & International HSSS conference "From Systemic Thinking to Systems Design and Systems Practice", June 24-27, 2009, Xanthi, Greece.
18. G. Gaidajis and K. Angelakoglou, "Systems thinking and environmental assessment of products – Using the Life Cycle Assessment (LCA) approach", 5th National & International HSSS conference "From Systemic Thinking to Systems Design and Systems Practice", June 24-27, 2009, Xanthi, Greece.
19. Gaidajis, G., Angelakoglou, K. and Aktsoğlu, D., "Incorporating Industrial Ecology as an enhancement tool for teaching Sustainable Development to Engineers - current experience from Greece", EESD 2010, 5th International Engineering Education in Sustainable Development Conference, 19-22 of September, 2010, Göteborg, Sweden.
20. Gaidajis, G., Angelakoglou, K. and Aktsoğlu, D., "Integration of Sustainable Development in Engineering Universities in Greece", EESD 2010, 5th International Engineering Education in Sustainable Development Conference, 19-22 of September, 2010, Göteborg, Sweden.
21. Gaidajis G. and Angelakoglou, K., "Indoor air quality in terms of mass concentrations of particulate matter in areas of massive public congregation", Second International Symposium on Green Chemistry for Environment and Health, September 27-29, 2010, Mykonos, Greece.
22. Gaidajis G. and Angelakoglou K., "Development of a holistic tool for assessing the environmental sustainability of mining facilities", 5th International Conference Sustainable Development in the minerals industry, SDIMI 2011, June 14-17, Aachen, Germany.
23. Gaidajis G. and Angelakoglou K., "Environmental assessment of a poly-Si photovoltaic panel", 3rd International Conference on Environmental Management, Engineering, Planning and Economics (CEMEPE 2011) & SECOTOX Conference, June 19-24, 2011, Skiathos, Greece.
24. Gaidajis G. and Angelakoglou K., "Environmental analysis of a typical solar water heater with the application of Life Cycle Assessment software", 2nd International Exergy, Life Cycle Assessment, and Sustainability Workshop & Symposium (ELCAS-2), June 19-21, Nisyros, Greece.
25. Gaidajis, G. and Angelakoglou, K., "Indoor Concentrations of Particulate Matter in Hospital Environment". Protection and Restoration for the Environments – PRE11 XI International Conference, July 3-6, 2012, Thessaloniki, Greece.
26. G. Gaidajis and Angelakoglou K., "Relative Contribution of the Transportation Sector to the Carbon Footprint of an Urban Centre – A Medium Sized Greek City Case Study", TAP 2012 Conference, November 26-27, 2012, Thessaloniki, Greece.

27. G. Gaidajis and K. Angelakoglou, "Assessing the progress of mining industry towards sustainability - In need of new methodological frameworks", SDIMI 2013, 30 June-3 July, 2013, Milos, Greece.
28. G. Gaidajis and K. Angelakoglou, "Carbon footprint and energy assessment of a medium sized municipality in Greece". CEST 2013, 13th International conference on Environmental Science and Technology, September 5-7, 2013, Athens, Greece.

PUBLICATIONS (selectively)

1. G. Gaidajis, "Considerations of the dissociation of ambient ammonium aerosols based on field measurements of atmospheric gases and aerosols", *Journal of Environmental Protection and Ecology*, Vol. 3, No. 2, pages 361-369, 2002.
2. G. Gaidajis, "Ambient concentrations of total suspended particulate matter and its elemental constituents at the wider area of the mining facilities of TVX Hellas in Chalkidiki, Greece", *Journal of Environmental Science and Health*, Vol. A38, No. 11, pages 2509-2520, 2003.
3. G. Gaidajis, E. Mylona, K. Adam, E. Gazea, "Pilot scale field performance of a reclamation scheme for sulphidic waste rock", *European Journal of Mineral Processing & Environmental Protection*, Vol. 4, No. 2, 2004.
4. G. Gaidajis and K. Angelakoglou, "Indoor air quality in university classrooms and relative environment in terms of mass concentrations of particulate matter", *Journal of Environmental Science and Health*, Vol. A44, No. 12, 2009.
5. G. Gaidajis, K. Angelakoglou, D. Aktsoglou, "E-waste: Environmental problems and current management", *JESTR*, Vol. 3(1), pp. 193-199, 2010.
6. S. Hosoi, H. Yoshikado, G. Gaidajis and K. Sakamoto, "Study of the relationship between elevated concentrations of photochemical oxidants and prevailing meteorological conditions in the north Kanto area, Japan", *Journal of Water, Air and Soil Pollution*, Vol. 215, pp. 105-116, 2011.
7. G. Gaidajis, and K. Angelakoglou, "Assessment of the environmental impacts deriving from the life cycle of a typical solar water heater", *JESTR*, Vol. 4(1), pp. 92-95, 2011.
8. G. Gaidajis, K. Angelakoglou and D. Aktsoglou, "Sustainable Development integration in Greek school of engineering – current situation, experiences and actions", *International Journal of Sustainable Engineering*, DOI:10.1080/19397038.2011.574743, 2011.
9. G. Gaidajis, K. Angelakoglou, P. Botsaris and F. Fillipidou, "Analysis of the recycling potential of used automotive oil filters using the Life Cycle Assessment approach" *Resources, Conservation and Recycling*, 55, pp. 986-994, 2011.
10. G. Gaidajis, and K. Angelakoglou, "Screening life cycle assessment of an office used for academic purposes", *Journal of Cleaner Production*, 19, pp. 1639-1646, 2011.
11. G. Gaidajis, K. Angelakoglou and D. Aktsoglou, "Sustainable Development integration in Greek school of engineering – current situation, experiences and actions", *International Journal of Sustainable Engineering*, DOI:10.1080/19397038.2011.574743, Vol. 5, No. 2, pp. 175-185, 2012.
12. G. Gaidajis, and K. Angelakoglou, "Indoor air quality in terms of mass concentrations of particulate matter in areas of massive public congregation", *Fresenius Environmental Bulletin*, Vol. 21, No. 8b, pp 2350-2355, 2012.
13. Gaidajis, G. and Angelakoglou, K., "Environmental performance of renewable energy systems with the application of Life Cycle Assessment: a Multi-Si photovoltaic module case study", *Civil Engineering and Environmental Systems*, DOI: 10.1080/10286608.2012.710608, Special Issue, Vol. 29 (4), pp. 231-238, 2012.
14. Kazakidis V., Gaidajis G. and Angelakoglou K., (2013), "Evaluation of Environmental and Social Parameters of a gold-mining project at the pre-feasibility stage: A case study", *Journal of Global Perspective on Engineering Management*, Vol. 2, Iss. 2, pp 93-104, 2013.
15. Angelakoglou K., Dimitriou M. and Gaidajis G., (2013), Comparative evaluation of flat roof thermal systems: A life cycle analysis based approach, *International Journal of Sustainable Building Technology and Urban Development*, DOI: 10.1080/2093761X.2013.801803 (<http://dx.doi.org/10.1080/2093761X.2013.801803>), 2013.